

What is claimed is:

1. A device for compressing cancellous bone comprising:

an expandable body including an internal restraint coupled to the body which directs expansion of the body.

5

2. A device according to claim 1

wherein the internal restraint includes an internal membrane.

3. A device according to claim 1

wherein the expandable body includes an elongated axis, and

wherein the internal restraint includes an internal membrane that extends transversely of the elongated axis between opposing interior side surfaces of the expandable structure.

4. A device according to claim 1

wherein the expandable body includes an elongated axis, and

wherein the internal restraint includes an internal membrane that extends along the elongated axis between opposing end surfaces of the expandable structure.

5. A device according to claim 1

wherein the expandable body includes an elongated axis, and

wherein the internal restraint includes an internal membrane that extends in one direction along the elongated axis between opposing end surfaces of the expandable structure and in a second direction transversely of the elongated axis between opposing interior side surfaces of the expandable structure.

6. A device according to claim 1

wherein the internal restraint directs expansion of the expandable body more in one direction than in another direction

5  
5  
5  
5  
5  
5

transverse the one direction.

7. A device according to claim 1  
wherein the expandable body includes an elongated axis,  
wherein the internal restraint constrains expansion of  
the expandable body along the elongated axis.

8. A device according to claim 1  
wherein the expandable body includes an elongated axis,  
wherein the internal restraint directs expansion of the  
expandable body more in one radial direction from the  
elongated axis than in a second radial direction from the  
elongated axis.

9. A device according to claim 8  
wherein the internal restraint constrains expansion of  
the expandable body along the elongated axis.

10. A method for treating bone comprising the steps of  
inserting a device as defined in claim 1 inside bone,  
causing directed expansion of the body in cancellous  
bone, and

5 compacting cancellous bone by the directed expansion.

11. A method according to claim 10  
wherein the directed expansion lifts vertebral end  
plates.

12. A method according to claim 10  
wherein the directed expansion lifts tibial plateau  
depressions.

13. A method according to claim 10  
wherein the directed expansion lifts proximal humerus  
depressions.

14. A method according to claim 10  
wherein the directed expansion lifts cortical bone.

15. A method according to claim 10  
wherein the step of compacting forms a cavity.

16. A method according to claim 15  
further including the step of filling the cavity with a  
material.

17. A method according to claim 16  
wherein the material comprises bone cement.

18. A method according to claim 16  
wherein the material comprises synthetic bone substitute.

19. A method according to claim 16  
wherein the material comprises a flowable material that  
sets to a hardened condition.

20. A device for compacting cancellous bone comprising  
a body adapted to be inserted into bone and undergo expansion  
in cancellous bone to compact cancellous bone, the body  
including material that, during the expansion in cancellous  
5 bone, applies a force capable of moving fractured cortical  
bone, and further includes an interior membrane to constrain  
the expansion in cancellous bone.

21. A device according to claim 20  
wherein the expandable body includes an elongated axis,  
and

5 wherein the internal membrane extends transversely of the  
elongated axis between opposing interior side surfaces of the  
expandable structure.

22. A device according to claim 20  
wherein the expandable body includes an elongated axis,  
and

5 wherein the internal membrane extends along the elongated  
axis between opposing end surfaces of the expandable structure.

23. A device according to claim 20  
wherein the expandable body includes an elongated axis,  
and

5 wherein the internal membrane extends in one direction  
along the elongated axis between opposing end surfaces of the  
expandable structure and in a second direction transversely of  
the elongated axis between opposing interior side surfaces of  
the expandable structure.

24. A device according to claim 20  
wherein the internal membrane constrains expansion of the

expandable body more in one direction than in another direction transverse the one direction.

25. A device according to claim 20  
wherein the expandable body includes an elongated axis,  
wherein the internal membrane constrains expansion of the  
expandable body along the elongated axis.

26. A device according to claim 20  
wherein the expandable body includes an elongated axis,  
wherein the internal membrane constrains expansion of the  
expandable body more in one radial direction from the  
elongated axis than in a second radial direction from the  
elongated axis.

27. A device according to claim 26  
wherein the internal membrane constrains expansion of the  
expandable body along the elongated axis.

28. A method for treating bone comprising the steps of  
inserting a device as defined in claim 20 inside bone,  
causing constrained expansion of the body in cancellous  
bone, and

5 compacting cancellous bone by the constrained expansion.  
29. A method according to claim 28  
wherein the constrained expansion lifts vertebral end  
plates.

30. A method according to claim 28  
wherein the constrained expansion lifts tibial plateau  
depressions.

31. A method according to claim 28  
wherein the constrained expansion lifts proximal humerus  
depressions.

32. A method according to claim 28  
wherein the constrained expansion lifts cortical bone.

33. A method according to claim 28  
wherein the step of compacting forms a cavity.

34. A method according to claim 33  
further including the step of filling the cavity with a

material.

35. A method according to claim 33  
wherein the material comprises bone cement.

36. A method according to claim 33  
wherein the material comprises synthetic bone substitute.

37. A method according to claim 33

wherein the material comprises a flowable material that sets to a hardened condition.